



# *X-Plain™*

## *Ulcerative Colitis*

### **Reference Summary**

Ulcerative colitis is an inflammatory bowel disease. It is one of the 2 most common inflammatory bowel diseases. The other one is Crohn's disease. Ulcerative colitis and Crohn's disease cause intestinal inflammation and have very similar symptoms. Together, they affect about 1 million Americans every year. This reference summary explains the causes, symptoms, diagnosis, and treatment of ulcerative colitis.

### **Anatomy**

Swallowed food goes through the *esophagus*, which is the feeding tube. Next, food enters the stomach, where it is digested.

Digested food travels from the stomach to the small intestines, where most nutrients are further digested and absorbed into the body.

Fibers and digested food finally reach the colon. In the colon, the rest of the nutrients get absorbed and stools are formed. Stools are stored in the last part of the colon, the *sigmoid* and *rectum*, before being excreted.

The colon has several sections:

- the ascending colon
- the transverse colon
- the descending colon
- the sigmoid colon
- the rectum
- the anus

The walls of the intestines have 3 layers. The inside layer is called mucosa; it is responsible for digesting and absorbing food. The middle layer of the intestines is muscle that helps push food through. The outer layer of the intestines is called serosa. The serosa is very smooth, so the intestines do not get stuck together in the abdominal cavity.

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## Ulcerative Colitis

Inflammation is the body's natural way of clearing up damaged tissue. Ulcerative colitis is when the inner layers of the large intestine lining become inflamed. Ulcerative colitis causes swelling and scarring in the tissues of the colon. It may also be called colitis or proctitis.

Ulcers form in places where the inflammation has killed cells in the lining of the colon. The ulcers bleed and produce pus and mucus.

Inflammation due to ulcerative colitis usually occurs in the lower colon and the rectum, but it may affect the whole colon. Ulcerative colitis does not usually affect the small intestine. The main difference between ulcerative colitis and Crohn's disease is the location of the inflammation. Ulcerative colitis usually only affects the colon, whereas Crohn's disease may affect the whole gastrointestinal tract.

Some people with ulcerative colitis go for long periods, even years, with no symptoms. However, the disease usually comes and goes throughout life. The inflammation causes the colon to be empty most of the time, triggering diarrhea and blood in the stool.

## Causes

The cause of ulcerative colitis is still unknown. Doctors think that the immune system reacts to a virus or a bacterium by causing the intestinal wall to become inflamed. The immune system is made of blood cells and chemicals that find bacteria and viruses in the body and destroy them. When the immune system fights against the intestines, it can lead to inflammation, swelling, destruction, and scarring.

Ulcerative colitis usually occurs between the ages of 15-40, although children and older people can also develop it. Ulcerative colitis affects men and women equally and appears to run in some families.

## Symptoms

The most common symptoms of ulcerative colitis are abdominal pain and bloody diarrhea.

Patients with ulcerative colitis may also experience

- fatigue
- weight loss
- loss of appetite

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- rectal bleeding
- loss of body fluids and nutrients

## Diagnosis

A thorough physical exam and a series of tests may be needed to diagnose ulcerative colitis.

Blood tests can check for low blood count, or anemia, which could indicate bleeding in the intestines. Blood tests may also uncover a high white blood cell count, which is a sign of inflammation. By testing a stool sample, the doctor can tell if there is bleeding or infection in the intestines.

The doctor may need to do a colonoscopy, which involves inserting an endoscope into the anus to see the inside of the large intestine. An endoscope is a long, flexible, lighted tube hooked to a computer and TV monitor. He or she will see any inflammation or bleeding.

During a colonoscopy, the doctor may do a biopsy, which involves taking a sample of tissue from the intestinal lining to look at under a microscope. A barium enema x-ray of the colon may also be needed. The colon is filled with barium, a chalky white solution. The barium shows up white on x-ray film, allowing the doctor a clear view of the colon.

## Treatment Options

Treatment for ulcerative colitis should:

- control inflammation
- correct nutritional deficiencies
- reduce abdominal pain, diarrhea, and rectal bleeding

Treatment may include nutrition supplements, drugs, hospitalization, surgery, or a combination of these.

**Nutritional treatment.** If symptoms are produced by certain foods, they may be controlled by avoiding foods that upset the intestines, such as seasoned foods or milk sugar called lactose.

**Medications.** Most patients with mild or moderate ulcerative colitis are initially treated with medications that help to control inflammation. Possible side effects of newer

inflammation medications include nausea, vomiting, heartburn, diarrhea, and headache. If a patient has severe ulcerative colitis or they do not respond to inflammation medication, they may be treated with corticosteroids. They are given orally, intravenously, with an enema, or in a suppository, depending on where the inflammation is. Corticosteroids can cause side effects including weight gain, acne, facial hair, hypertension, mood swings, and increased risk of infection. Other drugs may be given to relax the patient or to relieve pain, diarrhea, or infection.

**Hospitalization.** Sometimes symptoms are so severe that the person must be hospitalized. Such symptoms include severe bleeding or diarrhea causing dehydration. At the hospital, the doctor will try to stop diarrhea and blood loss, and replace lost fluids.

**Surgery.** About 25-40% of ulcerative colitis patients must eventually have their colon removed due to massive bleeding, severe illness, rupture of the colon, or risk of cancer. Sometimes the doctor will recommend removing the colon if medical treatment fails, or if side effects of corticosteroids or other drugs threaten the patient's health. Some surgeries to remove the colon reroute the small intestine to the outside of the body; this is called an ileostomy. In these operations, patients lose bowel control.

Other operations take the colon out and attach the small intestine to the rectum, allowing normal bowel movements.

## Summary

Ulcerative colitis is inflammation of the lining of the large intestine. The inflammation causes diarrhea and ulcers. If not treated, it could cause serious medical conditions.

People with ulcerative colitis may not have any symptoms for long periods of time.

There are many types of treatments available for ulcerative colitis. If needed, surgery can help the patient live a normal, active life. Patients who need to take medication for long periods of time are still able to hold jobs, raise families, and function successfully at home and in society.